CLAIMS

What is claimed is:

1. A method for reducing datastream transmission bandwidth requirements, comprising:

determining if an image data structure is present in a datastream;

extracting said image data structure from said datastream in response to such determination;

dividing said image data structure into one or more subregions;

associating a corresponding identifier with each of said one or more subregions;

determining if any subregion is substantially identical to a previous subregion;

replacing each subregion which is substantially identical to a previous subregion with the corresponding identifier of said previous subregion;

generating a packaged image data, which includes only selected subregions and corresponding identifiers for substantially identical subregions; and inserting said packaged image into the data stream; and

transmitting said modified data stream and a decoding table correlating corresponding identifier and transmitted subregions where transmission band width requests are reduced.

2. A method of decoding a packaged image, comprising:

determining whether a packaged image is present in a datastream;

responsive to determining that a packaged image is present in a datastream, extracting the packaged image;

separating the packaged image into an image data structure and a decoding table containing one or more references and one or more corresponding identifiers; and

modifying the image data structure to replace any identifiers present in the image data structure with corresponding references.

3. The method of claim 1, wherein the dividing step further comprises analyzing an image to determine the most effective size of a subregion.

4. The method of claim 1, wherein the storing step further comprises retaining a symbol dictionary of references and identifiers employed in the determining step of processing a previously analyzed image data structure.

5. The method of claim 4, wherein the retaining step further comprises maintaining descriptive statistics on the frequency with which references stored in the symbol dictionary are employed and selectively removing the references when the frequency of their occurrence falls.

6. The method of claim 1, wherein the storing step further comprises storing a preloaded set of references on a sending machine and omitting preloaded references from the decoding table.

7. The method of claim 2, wherein the modifying step further comprises replacing identifiers with references from a preloaded decoding table.

8. A method of reducing datastream transmission bandwidth, comprising:

examining a datastream for the presence of one or more image data items;

responsive to the presence of one or more image data items, examining the one or more image data items for the presence of one or more repeated visual data elements; and

responsive to the presence of one or more repeated visual data elements, recoding the datastream with one or more replacement markers inserted to replace the one or more repeated visual data elements and with a decoding table for translating the one or more replacement markers during decoding.

9. An apparatus for reducing datastream transmission bandwidth requirements, comprising:

means for determining if an image data structure is present in a datastream;

means for extracting said image data structure from said datastream in response to such determination;

means for dividing said image data structure into one or more subregions;

means for associating a corresponding identifier with each of said one or more subregions;

means for determining if any subregion is substantially identical to a previous subregion;

means for replacing each subregion which is substantially identical to a previous subregion with the corresponding identifier of said previous subregion;

means for generating a packaged image data, which includes only selected subregions and corresponding identifiers for substantially identical subregions; and inserting said packaged image into the data stream; and

means for transmitting said modified data stream and a decoding table correlating corresponding identifier and transmitted subregions where transmission band width requests are reduced.

10. An apparatus for decoding a packaged image, comprising:

means for determining whether a packaged image is present in a datastream;

means for, responsive to determining that a packaged image is present in a datastream, extracting the packaged image;

means for separating the packaged image into an image data structure and a decoding table containing one or more references and one or more corresponding identifiers; and

means for modifying the image data structure to replace any identifiers present in the image data structure with corresponding references.

11. The apparatus of claim 9, wherein the dividing means further comprises means for analyzing an image to determine the most effective size of a subregion.

12. The apparatus of claim 9, wherein the storing means further comprises means for retaining a symbol dictionary of references and identifiers employed by the determining means in processing a previously analyzed image data structure.

13. The apparatus of claim 12, wherein the retaining means further comprises means for maintaining descriptive statistics on the frequency with which references stored in the symbol dictionary are employed and selectively removing the references when the frequency of their occurrence falls.

14. The apparatus of claim 9, wherein the storing means further comprises means for storing a preloaded set of references on a sending machine and omitting preloaded references from the decoding table.

15. The apparatus of claim 10, wherein the modifying means further comprises means for replacing identifiers with references from a preloaded decoding table.

16. An apparatus for reducing datastream transmission bandwidth, comprising:

means for examining a datastream for the presence of one or more image data items;

means for, responsive to the presence of one or more image data items, examining the one or more image data items for the presence of one or more repeated visual data elements; and

means for, responsive to the presence of one or more repeated visual data elements, recoding the datastream with one or more replacement markers inserted to replace the one or more repeated visual data elements and with a decoding table for translating the one or more replacement markers during decoding.

17. A computer program product in a computer usable medium for reducing datastream transmission bandwidth requirements, comprising:

instructions on the computer usable medium for determining if an image data structure is present in a datastream;

instructions on the computer usable medium for extracting said image data structure from said datastream in response to such determination;

instructions on the computer usable medium for dividing said image data structure into one or more subregions;

instructions on the computer usable medium for associating a corresponding identifier with each of said one or more subregions;

instructions on the computer usable medium for determining if any subregion is substantially identical to a previous subregion;

instructions on the computer usable medium for replacing each subregion which is substantially identical to a previous subregion with the corresponding identifier of said previous subregion;

instructions on the computer usable medium for generating a packaged image data, which includes only selected subregions and corresponding identifiers for substantially identical subregions; and inserting said packaged image into the data stream; and

instructions on the computer usable medium for transmitting said modified data stream and a decoding table correlating corresponding identifier and transmitted subregions where transmission band width requests are reduced.

18. A computer program product in a computer usable medium for decoding a packaged image, comprising:

instructions on the computer usable medium for determining whether a packaged image is present in a datastream;

instructions on the computer usable medium for, responsive to determining that a packaged image is present in a datastream, extracting the packaged image;

instructions on the computer usable medium for separating the packaged image into an image data structure and a decoding table containing one or more references and one or more corresponding identifiers; and

instructions on the computer usable medium for modifying the image data structure to replace any identifiers present in the image data structure with corresponding references.

19. The computer program product of claim 17, wherein the instructions for dividing further comprise instructions on the computer usable medium for analyzing an image to determine the most effective size of a subregion.

20. The computer program product of claim 17, wherein the instructions for storing further comprise instructions on the computer usable medium for retaining a symbol

dictionary of references and identifiers employed in the determining step of processing a previously analyzed image data structure.

21. The computer program product of claim 20, wherein the instructions for retaining retaining further comprise instructions on the computer usable medium for maintaining descriptive statistics on the frequency with which references stored in the symbol dictionary are employed and selectively removing the references when the frequency of their occurrence falls.

22. The computer program product of claim 17, wherein the instructions for storing further comprise instructions on the computer usable medium for storing a preloaded set of references on a sending machine and omitting preloaded references from the decoding table.

23. The computer program product of claim 18, wherein the instructions for modifying further comprise instructions on the computer usable medium for replacing identifiers with references from a preloaded decoding table.

24. A computer program product in a computer usable medium for reducing datastream transmission bandwidth, comprising:

instructions on the computer usable medium for examining a datastream for the presence of one or more image data items;

instructions on the computer usable medium for, responsive to the presence of one or more image data items, examining the one or more image data items for the presence of one or more repeated visual data elements; and

instructions on the computer usable medium for responsive to the presence of one or more repeated visual data elements, recoding the datastream with one or more

replacement markers inserted to replace the one or more repeated visual data elements and with a decoding table for translating the one or more replacement markers during decoding.